

DESCRIPTIONS OF THREE NEW SPECIES OF KATYDIDS  
AND A NEW GENUS OF CRICKETS FROM COSTA RICA.

By JAMES A. G. REHN,

*Of the Academy of Natural Sciences of Philadelphia.*

The following new forms are contained in the collection of the U. S. National Museum, and form part of the Schild and Burgdorf collection of Costa Rican insects. The author wishes to thank the officials of the United States National Museum for the opportunity to study this and other material from the collections under their charge.

**TURPILIA GRANDIS**, new species.

*Type*.—Female; San Carlos, Costa Rica. (Schild and Burgdorf.)  
[Cat. No. 9477, U.S.N.M.]

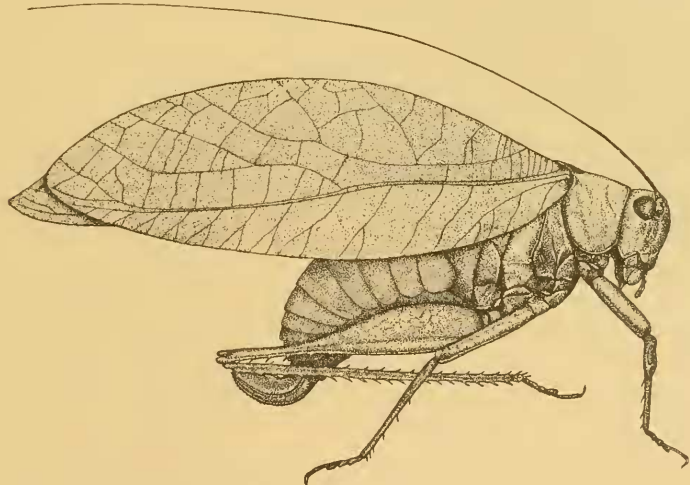


FIG. 1.—TURPILIA GRANDIS. LATERAL VIEW OF TYPE. ( $\times 2$ .)

Related to *T. obtusangula* Brunner, but differing in the longer and much broader tegmina, the more curved ovipositor, and the shorter caudal femora. In general appearance it closely resembles *T. punctata* Stål of the West Indies, but that species has the metasternal lobes more produced and the ovipositor much larger.

Size rather large; form strongly compressed. Head with the occiput very slightly rounded; fastigium very narrow, compressed, very narrowly sulcate except at the apex, margins raised, thickened, and

diverging caudad; frontal fastigium narrowly in contact with the fastigium of the vertex; eyes globose, moderately prominent; infraocular region with a flattened, rugulose impressed area, longer than broad, but of indefinite shape; antennae in length about equal to the head, pronotum and tegmina together, first and second joints rather large, remainder slender and filiform, scrobes large and extending almost to the level of the ventral portion of the eyes. Pronotum deplanate dorsad, lateral angles distinct but rounded cephalad, caudal half of the dorsum with a slightly depressed reniform shagreened area; cephalic margin arcuato-emarginate, caudal margin arcuate with a very slight median emargination; lateral lobes deeper than long, the margins

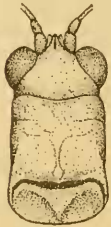


FIG. 2.—TURPILLA GRANDIS. DORSAL VIEW OF HEAD AND PRONOTUM. ( $\times 3$ .)

rounded and with a distinct but rather shallow humeral sinus. Tegmina elongate-ovate, the greatest width being contained three times in the length, cephalic and caudal margins arcuate, the latter slightly more than the former, apex narrowly rounded; mediastine vein but faintly indicated proximad, median vein with its forks reaching the caudal margin. Wings moderately slender, the greatest width distinctly less than half the length. Prosternum unarmed. Mesosternum with distinct triangular lobes, the caudal margin with an obtuse-angulate emargination. Metasternum with the caudal margin subtruncate, the lobes subrotundate laterad. Ovipositor

small, broad, bent proximad, straight distad, apex acute, the margins serrate, the dorsal serrato-dentate. Cephalic femora armed ventrad with three spines on the cephalic margin; median femora armed on the same margin with three to five spines. Cephalic tibiae slender except for the inflation over the auditory foramina, rounded, slightly depressed dorsad, but without distinct sulcation; foramina elongate reniform. Caudal femora not exceeding the body in length, moderately inflated in the proximal half, the inflation principally dorsad of the median line, distal portion slender, subequal; tibiae distinctly exceeding the femora in length.

General color apparently apple-green, now present only on a few small areas, the remainder faded to dull greenish white. Cephalic and lateral margins of the reniform marking on the pronotum, and a short arcuate line at the base of the dorsal field of the tegmina, blackish, the pronotal maculation generally dull olive-green.

*Measurements.*

	<i>mm.</i>
Length of body.....	24.0
Length of pronotum.....	5.5
Length of tegmen.....	37.5
Greatest width of tegmen.....	12.5
Length of caudal femur.....	18.2
Length of ovipositor.....	6.0

The type only has been examined.

## ISCHNOMELA PULCHRIPENNIS, new species.

*Type*.—Male; Carrillo, Costa Rica. (Schild and Burgdorf.) [Cat. No. 9479, U.S.N.M.]

Allied to *I. gracilis*, but differing in the shorter tegmina and caudal femora.

Size medium; form moderately elongate; surface glabrous. Head with the occiput very broadly arcuate; fastigium compressed, knife-like, of moderate elevation, the paired ocelli at the base and separated by a very slight space, apex very obliquely truncate, ventrad touching the facial fastigium; facial fastigium moderately produced, the apex blunt, ventrad occupied almost wholly by the median ocellus; eyes reniform, about equal to the infraocular space in length; palpi with the penultimate joint short, hardly half the length of the terminal, compressed, except for a rounded proximal section, antepenultimate joint slightly shorter than the terminal joint subcylindrical, terminal joint slightly curved, slightly larger distad than proximad, tip slightly excavate; antennae very slender filiform, elongate, about three and one-half times the length of the body, proximal and second joint large. Pronotum subsellate, the prozona distinctly arcuate dorsad, the metazona slightly but distinctly deplanate; cephalic margin very slightly arcuate,

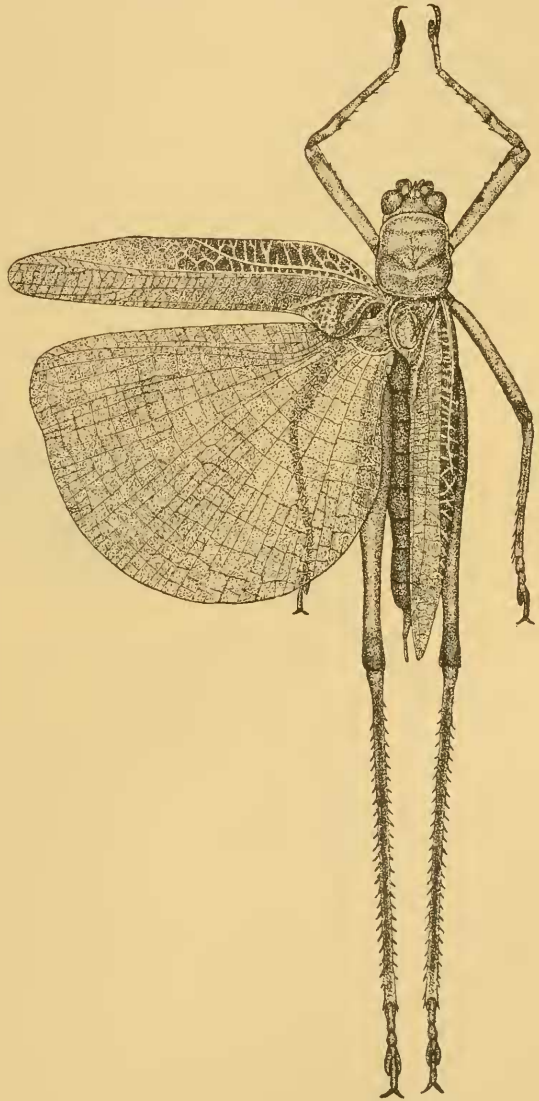


FIG. 3.—ISCHNOMELA PULCHRIPENNIS. DORSAL VIEW OF TYPE (ANTENNAE OMITTED). ( $\times 1\frac{1}{2}$ .)

caudal margin truncate-arcuate; prozona about twice the length of the metazona, the cephalic and caudal transverse sulci distinctly and the median slightly impressed, metazona with at least the caudal half impresso-punctate; lateral lobes longer than deep, the ventral margin slightly sinuate, caudal margin rounded with the sinus slightly marked, a slight but apparent shoulder developed on the metazona. Prosternum with a pair of elongate slender spines. Tegmina exceeding the body and about reaching the tips of the caudal femora, sublanceolate with the apex rounded, the greatest width being contained about four and a half times in the length; cephalic margin very slightly arcuate, the caudal margin straight; mediastine and anterior radial veins with numerous oblique rather regular branches extending to the cephalic margin; ulnar veins extending parallel to the caudal margin; veins of the marginal field and the network of the

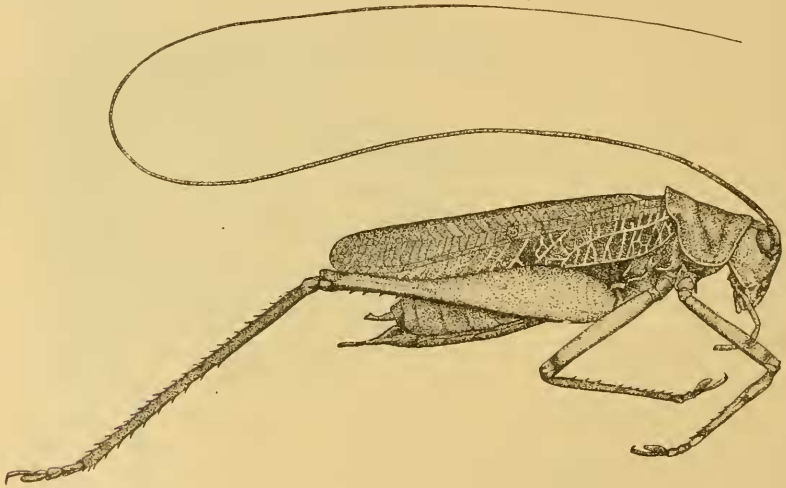


FIG. 4.—*ISCHNOMELA PULCHRIPENNIS*. LATERAL VIEW OF TYPE. ( $\times 1\frac{1}{2}$ .)

tambourine of the right tegmen coriaceous. Wings slightly longer than the greater width, the margin regularly rounded. Terminal abdominal segment with a median truncate emargination; supra-anal plate produced, trigonal, longitudinally depressed mesad; cerci straight, except for an apical internal deflection, which is depressed into a lamellate ridge on the internal side and supplied with three distinct teeth; subgenital plate produced, carinate ventrad, the apical margin with a very deep median V-shaped emargination, styles slightly longer than the depth of the median emargination. Cephalic femora half again as long as the pronotum, very slightly larger distad than proximad; cephalic tibiae about equal to the femora in length, moderately inflated at the slits of the bullae. Median femora slightly longer than the cephalic, subequal in circumference except for the slightly con-

stricted apex; tibiae equal in length. Caudal femora distinctly shorter than the length of the tegmina, the proximal five-eighths being strongly bullate, the inflation being almost wholly dorsal, the ventral margin with five spines in the apical half; caudal tibiae slightly longer than the femora, all margins spined, the dorsal about twice as heavily armed as the ventral, the spines on the latter face adpressed.

General color tawny-olive, with a touch of ferruginous on the pronotum and cephalic limbs. Antennae washed with ferruginous; eyes drab. Tegmina with the marginal field blackish proximad fading to the general tint distad, the veins Naples yellow, and strongly contrasted with the base color; anal field of the right tegmen saffron yellow, with the file marked with an arcuate transverse bar of brownish black. Wings dilute wood brown, a slightly marked yellowish suffusion proximad. Abdomen mummy brown, touched with blackish distad. Femora all striped ventrad with blackish; cephalic with two distal annuli, one distinct, the other faint; median marked as the cephalic; caudal without annuli. Cephalic and median tibiae with several more or less distinct incomplete annuli; caudal tibiae tawny-olive, the spines darker. Tarsi blackish ventrad.

*Measurements.*

	<i>mm.</i>
Length of body.....	37.5
Length of pronotum.....	7.2
Length of tegmen.....	32.2
Greatest width of tegmen.....	6.7
Length of caudal femur.....	27.5

The type is unique.

*MIMETICA CRENULATA*, new species.

*Type*.—Male; Turrialba, Costa Rica. (Schild and Burgdorf.) [Cat. No. 9478, U.S.N.M.]

This species is apparently allied to *M. brunneri* Saussure and Pictet, but can be readily separated by the crenulato-lobate distal third of the caudal margin of the tegmina, the blunter apex of the same, and the more deeply rounded and sharply defined emarginations of the cephalic margin. As the males of several species of the genus are unknown, this may possibly represent the opposite sex of a species already known. However, none of the species known only from the female approach this form in the character of the tegmina except *M. subintegra* Saussure and Pictet, which is a much larger insect with a somewhat different venation.

Size, medium; form compressed, as is usual in the genus; surface, tuberculato-rugose. Head distinctly flattened cephalad; vertex horizontal; fastigium but little produced, rectangulate, longitudinally sulcate; facial fastigium acute; antennae heavy, margin of the scrobes touching on the dorsal half of the internal margins, the fastigium of the



vertex and the facial fastigium separated by the structure of the scrobes, first and second joints large, the proximal larger, the joints of the remainder of the antennæ imperfectly marked: eyes ovoid, rather small. Pronotum sellate, depressed dorsad, the caudal section produced and expanded, surface tuberculate; cephalic margin truncate, caudal margin

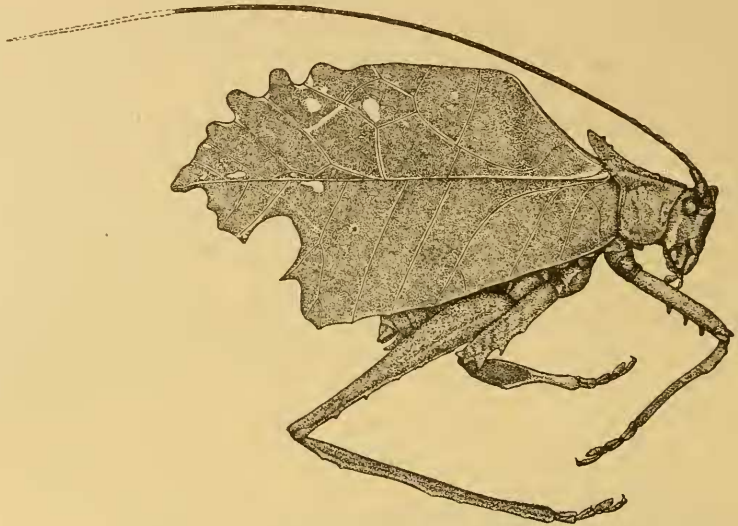


FIG. 5.—MIMETICA CRENULATA. LATERAL VIEW OF TYPE. ( $\times 2$ .)

arcuate with a rounded median emargination; lateral lobes rounded, about as long as deep, sinus very slight, a distinct overhanging shoulder present. Tegmina of the peculiar "dried-leaf" type found in all the species of the genus, and of a form defying description, the figure representing the characters satisfactorily; the regularly rounded dentate character of the distal half of the caudal margin and the position of the large rounded emargination of the cephalic margin are the principal characters. Wings considerably longer than broad. Abdomen compressed, each of the segments with a median acute lobule on the dorsal margin; terminal dorsal segment roundly emarginate; supra-anal plate broader than long, the apical margin truncate; cerci broad, flat, acute, not exceeding the supra-anal plate in length; subgenital plate subquadrate, the caudal margin truncate. Cephalic femora about as long as the pronotum, the ventro-cephalic margin with four dentiform lobes, the proximal quite small, cephalic genicular lobes



FIG. 6.—MIMETICA CRENULATA. DORSAL VIEW OF PRONOTUM OF TYPE. ( $\times 3$ .)

acute; cephalic tibiae slightly longer than the femora, expanded and inflated at the bullæ, the distal portion slender. Median femora about equal to the cephalic in length, armed with three similar lobes, the proximal quite small, increasing in size distad, genicular lobes equal in size and moderately acute; median tibiae very slightly longer than the

femora, inflated, strongly compressed in the proximal half with the entire margins acute and slightly elevated. Caudal femora nearly two and a half times the length of the pronotum, heavy, the proximal half moderately inflated, the inflation being dorsal, and the ventral margin nearly straight, with several short, spiniform lobes and a number of blunt spines; caudal tibiae slightly longer than the femora, slightly sinuate, the dorsal margin distinctly sinuate with several blunt spined tubercles on each margin.

General color very dull, obscure, olive-green, the veins of the tegmina gamboge yellow. Limbs speckled and washed with ochraceous-rufous, the median tibiae with the inflation uniform ochraceous-rufous. Abdomen pale apple-green, the margins regularly spotted with ochraceous-rufous. Wings cream buff-hyaline.

*Measurements.*

	<i>mm.</i>
Length of body.....	20.0
Length of pronotum .....	7.2
Length of tegmen .....	28.0
Greatest width of tegmen .....	17.5
Length of caudal femur.....	18.2

The type is the only specimen seen by the author.

*SYMPHYLOXIPHUS*,<sup>a</sup> new genus.

Allied to *Anaripha* Saussure and *Falculula* Rehn,<sup>b</sup> but differing from both in the arched corneous tegmina with poorly defined veins; also from *Anaripha* in the shape and unarmed edges of the ovipositor, and from *Falculula* in the slenderer body and limbs and the presence of distinct tympani on the cephalic tibiae.

This genus and species bears a wonderful resemblance to *Phylloscirtus brunnerianus* Saussure, from which it can be readily separated by the nonfoliaceous palpi, the heavy depressed proximal antennal joint and a number of their characters.

*Type of the genus.*—*Symphylloxiphus magnificum*.

*SYMPHYLOXIPHUS MAGNIFICUM*, new species.

*Type.*—Female; Carrillo, Costa Rica (Schild and Burgdorf). [Cat. No. 9480, U.S.N.M.]

Size very small; form much as in *Falculula*; surface of the body, except the pronotum, glabrous. Head with the occiput rounded, declivent cephalad; fastigium rather narrow, somewhat compressed; eyes large, prominent, occupying the greater part of the depth of the head, subovoid in outline; antennae with the proximal joint strongly depressed, second joint small, cylindrical, remaining joints very short and smaller than the second joint, but similar in character; palpi with

<sup>a</sup> *Συμφυλος* kindred, *ξιφος* *saber*.

<sup>b</sup> Entom. News, XIV, p. 258.

the ultimate joint tubiform, the apex obliquely and sharply trimmed, penultimate joint about half the length of the ultimate, antepenultimate joint longer than the penultimate and shorter than the ultimate.

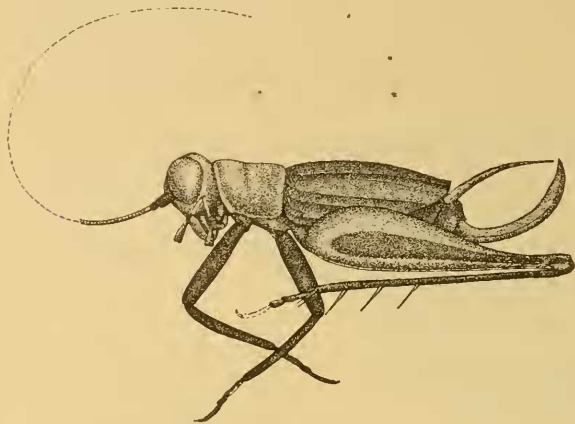


FIG. 7.—*SYMPHYLOXIPHUS MAGNIFICUM*. LATERAL VIEW OF TYPE. (× 7.)

Pronotum well haired; margins subtruncate, the dorsum arched transversely; lateral lobes longer than deep, the ventro-cephalic angle rounded, the ventro-caudal angle distinct. Tegmina corneous, distinctly glabrous, the angle of the dorsal and lateral fields moderately marked; veins poorly defined and longitudinal in disposition, with very few distinct branches; distal margin with a distinct emargination slightly mesad of the vein dividing the two fields. Cerci about two-thirds the length of the tegmina, tapering; ovipositor reaching to the tips of the cerci, evenly and moderately arcuate, apex acute, the dorsal margin with a very slight preapical emargination, margins unarmed; subgenital plate moderately produced, the apex narrowly and triangularly emarginate. Cephalic tibiae with a distinct linear longitudinal imperforate tympanum. Median limbs, particularly the tibiae, slenderer than the cephalic. Caudal femora strongly inflated proximad, tapering evenly to the slender tips; caudal tibiae very slender, slightly longer than the femora, supplied with three pairs of spurs, very long and spiniform.

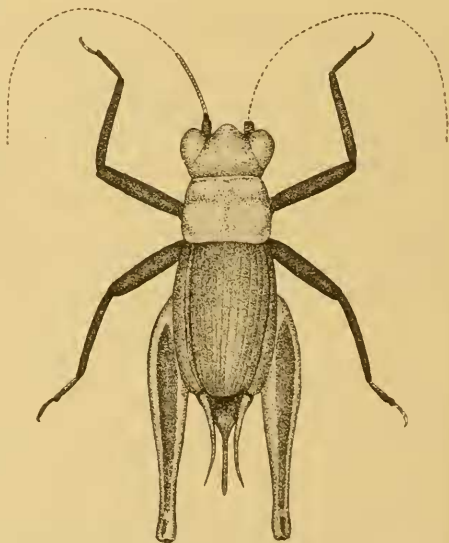


FIG. 8.—*SYMPHYLOXIPHUS MAGNIFICUM*. DORSAL VIEW OF TYPE. (× 7.)

General colors orange-rufous and shining black. Head orange-rufous with several obscure brownish maculations; eyes isabella-color; antennae with the proximal and second joints black, the remainder buff; palpi buff except the terminal



joint, which is black. Pronotum orange-rufous. Abdomen and tegmina shining black; ovipositor ferruginous, the distal half darker than the proximal; cerci buff, the tips darker. Cephalic and median limbs black, except the proximal half of the metatarsi, which is buffy. Caudal femora buff with a broad subfusiform bar of black on the lateral face; caudal tibiae blackish, the spurs and tarsi buffy, the spurs with dark tips.

*Measurements.*

Length of body.....	mm.
Length of pronotum.....	5.1
Length of tegmen.....	1.1
Length of caudal femora.....	3.1
Length of ovipositor.....	5.0
	2.1

The type is unique.